

26 CHAPMAN (H. C.)

ON

# MEDICAL EDUCATION.

BY

HENRY C. CHAPMAN, M.D.



"CONSTITUTIONS ARE NOT MADE, BUT GROW."

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ONE of the principal merits of the Philosophie Positive of Auguste Comte, was the full illustration of the view that the political and social state of one generation was the more or less modified result of the preceding one. This great truth will not be questioned by any one who has studied history comprehensively. Ignorance of, or inattention to it, is nevertheless seen daily in the meddling of politicians in trade, of government generally, in matters which they only make worse by interference.

My attention has been recently called to this subject in the particular instance of medical education, by an article of Prof. H. C. Wood, in the December number of Lippincott's Magazine, who seems to think that it is not only advisable, but practicable, that the United States should adopt the systems of medical education of England, France, and Germany, and that by a stroke of the pen the University of Pennsylvania can be made to turn out a lot of Virchows, Graefes, Hebras, Pagets, etc. The important consideration as to whether this fiat is to emanate from Harrisburg or elsewhere, and the funds provided for by the distinguished financiers of that place, are not stated.

I will not stop, therefore, to discuss the ways and means of such a measure; but, with all deference to the sincere motives of such a distinguished investigator as Prof. Wood, I must protest against what seems to me a most untrue account of medical education abroad.

In speaking of medical examinations in England, Prof. Wood observes (p. 704): "The examination, partly oral,

partly written, is very severe, and comprises, besides anatomy and physiology, which occupy two successive evenings, botany, *materia medica*, pharmacy, and the various branches of practical medicine."

Prof. Wood could hardly have seen Prof. Huxley's essay on Medical Education, in which a rather deplorable account is given of his experience of the men who come up for examination to the University of London—and be it remembered that they are "the picked men of the medical schools of London." At page 60 Prof. Huxley observes, "what has struck me, then, in this long experience of the men best instructed in physiology from the medical schools of London, is, taking it as a whole and broadly, the singular unreality of their knowledge of physiology." Again, at p. 61, he says: "I declare to you, gentlemen, that I have often expected to be told, when I have been asked a question about the circulation of the blood, that Prof. Breilkopk is of opinion that it circulates, but that the whole thing is an open question. I assure you that I am hardly exaggerating the state of mind, on matters of fundamental importance, which I have found, over and over again, to obtain among gentlemen coming up to that picked examination of the University of London. Now I do not think that this is a desirable state of things." Further on Prof. Huxley says: "I have asked for a knowledge of the physics and the mechanics and the chemistry of the human body, and I have been met by talk about cells. I declare to you, I believe it will take me two years, at least, of absolute rest from the business of an examiner to hear the word 'cell,' 'germinal matter,' or 'carmine,' without a sort of inward shudder."

In the *Medical Times* Mr. Quain observes: "A few words as to our special medical course of instruction. The student now enters at once upon several sciences—physics, chemistry, anatomy, physiology, botany, pharmacy, therapeutics—all these, the facts and the language and the laws of each, to be mastered in eighteen months. Up to the beginning of the medical course many have learned little. We cannot claim anything better than the examiner of the University of

London and the Cambridge lecturer have reported for their universities." As regards the study of zoology, botany, etc., it is of the most superficial character, according to Prof. Huxley. "The pretence, for it is nothing else, can be nothing else, than a pretence of comparative anatomy, as part of their medical curriculum."

Every one living in London has experienced the loss of time involved in going from hospital to hospital, they being widely separated in such different parts of the city, that the necessity of uniting them has often been suggested. Further, the professors, being engaged in practice, cannot do their chairs justice, etc.

Many other facts and quotations might be given, to show that the medical men of London are far from being satisfied with their course of medical instruction, and that it is anything but like that depicted by Dr. Wood.

I do not propose discussing the advantages of studying medicine in France. As for the past twenty-five years, Paris has offered no advantages, comparatively, either to the student of this country or from anywhere else. Ask any one who is really investigating mathematics, physics, chemistry, biology, or medicine, what authors he daily consults, and his answer is, invariably, German. Of course in France there are distinguished men, but the days of Laplace, Arago, Biot, Cuvier, Bichat, and Cruveilhier have passed away. Is it to be wondered at, when a government makes the profession of a particular religious creed, or the holding of particular political doctrines, the test of obtaining a professorship—when hypocrisy is the stepping-stone to higher things? Is it strange that science should have decayed, when its vital conditions, doubt and inquiry, were almost stifled out of existence by the centralized despotism of Napoleon III.?

Dr. Wood attaches importance to the position of externe and interne to the Paris hospitals, and very properly. But the resident physicians of our hospitals have the same opportunities of obtaining a knowledge of diseases and their treatment as the Paris internes, with this difference: that their responsibility is greater, our residents being permitted to do

more than the internes. In every way our resident physicians will compare favorably with the internes of the Pitié, Charité, Hôtel Dieu, etc., and in practical surgery are far ahead of them.

While every one conversant with the subject knows that Germany leads the world of science, a great many facts must be taken into consideration which seem to have entirely escaped Dr. Wood, before any comparison can be made between their system of medical education, and that of the United States. Whatever knowledge we have of any kind in this country is very much diffused. De Tocqueville, in his profound work on the "Democratie en Amérique," observes that there is no country in the world where one finds so few ignorant and so few learned (ou il se trouve aussi peu d'ignorants et moins savants qu'en Amérique). The facility with which an American changes his occupation, the different kinds of business he may have been engaged in, is notorious. We meet in this country men who in the course of their life have been peddlers, engineers, clergymen, doctors, as occasion offered—knowing something about everything, and not learned in anything. The development of our country has brought naturally into existence such anomalous creatures. Exactly the opposite extreme is seen in Germany: there the knowledge is vast, but confined to one class. In the words of a great historian, "Their great authors address themselves not to their country, but to each other." In our slang they form a learned "ring." Mr. Laing, one of the most acute observers of European society, in speaking of the learned men and the people generally, says: "they speak and think in a different language." Consequently there is no real mental intercourse, and you have the strange spectacle of the most learned men in the world living side by side with a people so ignorant that they calmly submit to an Austrian or Prussian despotism that would be intolerable and unendurable to an American for a moment.

The limits of this essay do not permit me to go into the explanation of how this state of affairs arose naturally in Germany, but I have called attention to it to show that intel-

lectually the Austrian or German is a very different creature from a citizen of the United States, and that what one will submit to the other never will. Now, the system of medical education in Germany forms but a part of all other kinds of education, and education, again, a part of their national organization. To establish in this country a university of the German kind, we would first require to have their gyn-nasia, then their primary schools, then more taxation to support them, a national priesthood to regulate the ideas of the faculties, and finally a standing army to keep the dissatisfied quiet. We cannot take the good from Germany without the evil. A medical education is a good thing, but the privilege of saying what we please, doing what we like, and spending our money as suits us best, is better.

In making comparisons between this country and Germany, it must be remembered that here there are many ways of arriving at distinction ; in Germany there are really only two—the army and science. The talent of this country is distributed through many occupations ; in Germany it is really concentrated into one, and, naturally, where there are so many cultivating science as the business of their life, some ought to be pre-eminently distinguished. Again, the standard of living is so much higher in this country than in Germany, that the medical man here, in order to live, must do something that will pay. The social position of the doctor in this country is much better than in Germany. The German physician never moves in what is called good society ; he never entertains, living, as he does, in a cheap part of the town in apartments—no brown-stone front on Walnut Street for a German doctor. One of our fashionable medical entertainments would support a German professor for six months. He can, therefore, afford to live upon his salary, a mere pittance ; such an endowment would not keep one of the members of our faculty a month.

One oftens hears of the great laboratories and lecture-rooms in Germany and France. True, there are some, but, generally speaking, they are small, and remarkable not for

their paraphernalia, but for the men working in them. The lecture-room of the celebrated Du Bois Reymond is so small that the gas burns blue long before the lecture is over ; the laboratories of Robin, Vulpian, Marey, in Paris, will only accommodate two or three individuals. Well may Haeckel, the distinguished Prussian, say that good work is inversely as the size of the institution. That I may not be thought to be exaggerating, let me relate without disrespect what I noticed in presenting my letter of introduction to one of the most distinguished, kind, and popular lecturers. I was ushered into a little room twelve by six feet in size, so full of smoke that I could hardly distinguish anything. I recognized, however, the bowl of a pipe with a very long stem ; following up the stem, I arrived at a most intellectual head. The possessor of it had on a pair of pantaloons with a very evident patch, his shirt split up in front, and sleeves slit so as to give the arms fair play. His surroundings were the material of his work, and a razor and shaving-eup. Such was his laboratory, and yet from this little obscure room have issued some of the finest specimens of workmanship ever seen.

Another erroneous impression about the German Professorships is in reference to their lectures. Those lectures which are the most instructive and valuable are delivered to private classes by specialists, regular fees being given. One must secure his ticket for Hebra's Clinic as you take a season ticket for the theatre ; fees are given as well for the courses by Jaeger on the Eye, Rokitansky on Obstetrics, Hyrtl on Anatomy, Stricker with the Microscope, Schrötter on Lung Diseases, etc. These are the courses which are really valuable, and with which Government has nothing to do. As regards the public clinics, they are open to exactly the same objection that our clinics or those of any country are. A private clinic or lecture, like any other particularly good thing, must be paid for. If any American physician will give his lifetime to the study of a specialty, and lecture upon that and that alone, I have no doubt he can make, like

the German professor, a world-wide reputation, and a living—if he chooses to live like one.

I must also protest against the statement often made that the German physicians are better than the American ones. Those Americans who have lived longest in Germany are the last to send for them. Without doubt the Germans are the best oculists, aurists, and dermatologists living, but I cannot see their superiority in the practice of medicine, and in surgery they are manifestly our inferiors. Of one most important branch, dental surgery, an honor to American skill, they are almost entirely ignorant. The Germans are without doubt the best chemists, physiologists, histologists, and pathological anatomists; but the best physician is not the best chemist or physiologist, and the reason is very obvious—medicine is not yet a science but an art, and every practitioner has to acquire for himself those qualities upon which a successful practice depends, and which no scientific theory can teach. In fact, natural quickness, readiness of resource, and intuitive perception of things, the American has not his superior upon the globe, and it is just these qualities that make the practical physician.

As Prof. Penrose, in his reply to Prof. Wood, has called attention to our system of medical education being the best under the circumstances for the majority of students, I will pass to the consideration of the folly of legislative meddling with medical matters, and of what appears to me might be changed for the better in our medical curriculum. There probably does not exist a more illogical doctrine, and practically harmful, than the theory of the State taking care of people's interests, the sin of over-legislation. Let supply and demand regulate the production of doctors as it regulates everything else when not interfered with by the meddling of ignorant politicians. If a medical faculty cannot prove to their students that their lectures are worth paying for, let them die out and the fittest survive. Why should the rest of the world be taxed to support a lot of incompetent professors? The student knows whether he gets the worth of his money, and, if he and his professor are satisfied, whose

business is it? If Government is to take charge of the diseases of people and give physicians license to practise, to be consistent it ought to look after our fuel and clothes, etc., as well. In a word, let us have a paternal government, a Chinese civilization, and give up the Centennial. Besides, if the medieval faculty is to be supported through such artificial means as endowments, pensions, and the like, why should there not be faculties of the fine arts, music, science, and theology on the same basis? The result of such hot-house legislation would be, that we would see here, as seen all over Europe, a lot of learned pigs lecturing to empty benches, simply because the kind of knowledge they impart, however valuable intrinsically, has no marketable value. If it had, they would support themselves without any government patronage. When a country is left to itself, there will be always a healthy proportion between the intellectual and the practical classes, and that sort of knowledge which is most useful for the time being will be in demand and paid for—received and diffused among the masses. Any other kind of knowledge, however valuable it may be in itself, if not absorbed by the community, is useless, having no practical effect. No legislation can fill the empty benches of the lecturer who is ahead of his time. Government can tax people to support him, trustees can endow him, but they cannot make him popular. Competition, and the teaching of what the student wishes to learn, is the source of the vitality of all live professorships. It is notorious to those familiar with the history of science that patronage is always followed by intellectual apathy and degradation; but that, on the contrary, where government has endeavored to crush out the intellect, it has risen hydra-headed. Remember the days preceding the French Revolution, the galaxy of talent that appeared in Paris, and the vast progress in science made in the very jaws of the dark, frowning portals of the Bastile.

Again, we hear it rumored that the number of professorships is to be increased. In my humble opinion, it would be far better to diminish them. How can any professor, however competent, expect students to keep awake at eight

o'clock in the evening, when they have been attending lectures from nine to six, save a brief interval for bolting their food, in defiance of the lecture on digestion they have heard but a moment before? Of what earthly use is the spasmodic cramming of the *materia medica*? Far better have a practical course upon pharmacy, which would be invaluable to the physician proposing to practise in the country. Why should the medical man be obliged to burden his memory with Chinese, Turkey, and Russian rhubarbs, the various cinchona barks, the elements of the comp. cathartic pill, or the botanical name of the tree from which a certain soporific, concrete juice is obtained? Any experienced apothecary or wholesale druggist knows more than the physicians, save one, about such matters. How many medicines, after all, are in use? Sir Benj. Brodie noticed that the apothecary with whom he began life, used about eight bottles, and, at the end of his long and honorable London career, Sir Benjamin says he found he was using the same. A distinguished writer observes: "I recollect, when I was first under examination at the University of London, Dr. Pereira was the examiner, and you know that Pereira's *Materia Medica* was a book *de omnibus rebus*. I recollect my struggles with that book late at night and early in the morning (I worked very hard in those days), and I do believe that I got that book in my head somehow or other. But, then, I will undertake to say that I forgot it all a week afterwards. Not one trace of a knowledge of drugs has remained in my memory from that time to this, and really, as a matter of common sense, I cannot understand the arguments for obliging a medical man to know all about drugs, and where they come from. Why not make him belong to the Iron and Steel Institute, and learn something about cutlery, because he uses knives?"

Another absurdity seems to me to be the study of the seven branches at once. Why not first get as thorough a knowledge as possible of the structure and functions of the healthy body, including only those parts of chemistry and physics which relate to physiology, and then take up the practice of medicine, surgery, and obstetrics? If the student

can only afford to spend two years by such a plan, he could learn more than by cramming down seven branches at once from sunrise to sunset. The wonder is, that the student remains sane, rushing up from polarized light to the mysteries of hernia, from there to the structure of the liver of the house fly, then an interval spent in gulping down food, and again to sympathize with the troubles of Mrs. O'Flaherty, and, having been delivered from her, to plunge down into the circulation of the blood as illustrated by the whole animal kingdom as an *entrée* to supper. Again, it is rumored that more time is to be required in the study of medicine, and that an examining board of government officials should be appointed. The result of that would be, simply, that the number of irregular practitioners would be increased. If a student has only two years to study medicine, that is his misfortune. Government can prevent his putting out a sign, but it cannot prevent people sending for him, and, what is more, paying him if he relieves them. If practising medicine without a diploma is made illegal, then his charges will be proportional to the risk run, as the money lenders did before Jeremy Bentham demolished the usury laws.

It would be a great advantage if the physician could practise one branch of his profession, but every one knows that to get a practice the young doctor must take anything and everything, and he must therefore study all the branches. If a student can afford to give three years and more and chooses to take up some specialty, he has every opportunity of cultivating it at the university. He has only to make his choice between his favorite study and a more profitable practice. Everything in the long run is a question of finance, as a great philosopher once said. The reason why the anatomists, physiologists, and chemists in this country are not as distinguished as those in Germany is very evident; they do not make their studies the business of their lives. They do not live in their laboratories, but in their carriages going from patient to patient, or are engaged in occupations foreign to their specialties. Science is a jealous, unprofitable mistress in one sense. *Wer um die Götten freit suche in ihr nicht*

das Weib, "Who woos the goddess must not hope the wife," as Schiller sings. It is impossible for any one to study these sciences, teach them properly, and practise medicine; he must either neglect his lectures, or his patients. The Professor of the practice; of obstetrics; and surgery, find in their daily experience the materials for their lectures; the Professor of anatomy, physiology, and chemistry find in their laboratories, the materials for theirs. They should lecture from what they know, and not serve up, as is too often done in this country, a rehash of standard foreign authors. That the American student can accomplish as much as the German if he works, the world-wide reputation of the Professor of Anatomy of the University of Pennsylvania is my guarantee; and, as proofs of admirable physiological teaching, I offer the text-books of Dalton, Draper, and Flint as unsurpassed.

If, however, Professors have not ambition enough to keep up the dignity of their chairs and work for the love of it, and students will not avail themselves of the opportunities offered to them, neither the fiat of a board of trustees nor the meddling of politicians can make them. The result of such interference will be only to make matters worse. Those in positions endowed by I care not whom will be interested in keeping things as they are, will make all look bright outside while all may be rotten to the core within. Let supply and demand have fair play, let there be a generous competition among schools, a high-toned rivalry for distinction, and the students will crowd to those from whom they learn most.

With respect for my Alma Mater, and with gratitude to my old preceptors, I offer this essay on medical education to my fellow-students.









